

SEMICONDUCTOR LASER WITH A TAPERED RIDGE

ABSTRACT OF THE DISCLOSURE

A semiconductor ridge laser with a tapered ridge is disclosed. The tapered
5 ridge is designed to provide for both gain-medium amplification and mode
conversion amplification, the latter resulting in a higher kink power than is
obtainable with gain medium amplification alone. The power and lateral mode
content of the output beam is determined by the ridge parameters, which include
length, width, number of sections and degree and type of taper for the tapered
10 sections. The output beam can be made to have a profile that is more compatible
with the lateral modes on an optical fiber than a conventional highly astigmatic
output beam by including power in the higher-order lateral modes as well as in the
fundamental lateral mode.

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